



AUG 22 2003

GE Medical Systems

P.O. Box 414, W-709  
Milwaukee, WI 53201  
USA

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K031637

### **510(K) SUMMARY OF SAFETY AND EFFECTIVENESS**

This 510(k) summary of safety and effectiveness information is submitted in accordance with the requirements of 21 CFR Part 807.87(h).

**Identification of Submitter:** Larry A. Kroger, Ph.D.  
Senior Regulatory Programs Manager  
GE Medical Systems  
Tel. (414) 544-3894  
Summary prepared: May 2, 2003

**Identification of Product:** Innova 4100  
**Classification Name:** Solid State X-ray Imaging System  
**Manufacturer:** GE Medical Systems Europe  
283, rue de la Minière  
78530 Buc Cedex, France  
**Distributed by:** GE Medical Systems, Milwaukee, WI

**Marketed Devices:** The Innova 3100 is substantially equivalent to the currently marketed Vascular Angiographic system Innova 4100 (K023178) and complies with the same or equivalent standards.  
The SuperFast Gantry (InnovaTrace) with the capacitive sensor feature in the Innova 3100 system is substantially equivalent to the Innova 2000/Innova 2000S systems (K022322) for this feature.

**Device Description:** The Innova 3100 is designed to perform fluoroscopic x-ray examinations. The detector is comprised of amorphous silicon with a cesium iodide scintillator. The resulting digital image can be sent through a Fiber Channel link to an acquisition equipment then to network (in using DICOM) for applications such as post-processing, printing, viewing and archiving. The Innova 3100 consists of an angiographic monoplane positioner, a table, an X-RAY system and a digital detector.

The SuperFast Gantry (InnovaTrace) includes capacitive sensor technology and optimized collision avoidance software that permits an increase of pivot and C-arm speed of up to 20°/sec.

**Materials:**

*K031637*  
All construction and materials are compliant with UL 2601.

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**Design:**

There are hardware and software redundancies to prevent single point failures that could cause unintended motion.

**Energy Source:** 480 VAC 50/60Hz.

**Indications for Use:**

The Innova 3100 system is indicated for use in generating fluoroscopic images of human anatomy for vascular angiography, and optionally, rotational angiography procedures. It is intended to replace fluoroscopic images obtained through image intensifier technology.

**Comparison with predicate**

The system is substantially equivalent to the Vascular Angiographic System Innova 4100 system cleared under K023178.

The optional SuperFast Gantry (InnovaTrace) with capacitive sensor feature in the Innova 3100 system is substantially equivalent to the Innova 2000/Innova 2000S systems cleared under K022322 for this feature.

**Summary of Studies:**

Not applicable as Innova 3100 is considered substantially equivalent to Innova 4100 in terms of image quality and diagnostic capabilities.

**Conclusions:**

GE considers the system to be equivalent with the predicate devices. The system provides fluoroscopic images that are equivalent to the diagnostic capabilities of the predicate device images. The potential hazards, e.g., wrong measurements, misdiagnosis and increased gantry speeds are controlled by a risk management process including:

- A hazard identification
- A risk evaluation
- A Software Development and Validation Process



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Room – WO66-G609  
Silver Spring, MD 20993-0002

Larry A. Kroger, Ph.D.  
Senior Regulatory Programs Manager  
GE Medical Systems  
P.O. Box 414, W-400  
MILWAUKEE WI 53201

JUL 30 2012

Re: K031637

Trade/Device Name: Innova 3100 Digital Fluoroscopic Imaging Systems  
Regulation Number: 21 CFR 892.1650  
Regulation Name: Image-intensified fluoroscopic x-ray system  
Regulatory Class: II  
Product Code: OWB and JAA  
Dated: May 23, 2003  
Received: May 28, 2003

Dear Dr. Kroger:

This letter corrects our substantially equivalent letter of August 22, 2003.

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into class II (Special Controls), it may be subject to such additional controls. Existing major regulations affecting your device can be found in Title 21, Code of Federal Regulations (CFR), Parts 800 to 895. In addition, FDA may publish further announcements concerning your device in the Federal Register.

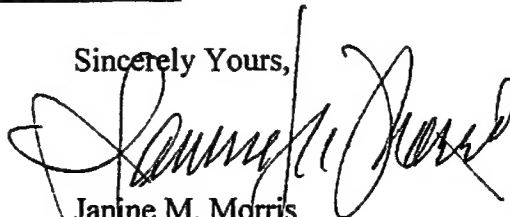
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Parts 801 and 809); medical device reporting (reporting of

medical device-related adverse events) (21 CFR 803); and good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820). This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Parts 801 and 809), please contact the Office of *In Vitro* Diagnostic Device Evaluation and Safety at (301) 796-5450. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely Yours,

A handwritten signature in black ink, appearing to read 'Janine M. Morris', is written over the typed name and title.

Janine M. Morris  
Acting Director  
Division of Radiological Devices  
Office of In Vitro Diagnostic Device  
Evaluation and Safety  
Center for Devices and Radiological Health

Enclosure

STATEMENT OF INTENDED USE

510(k) Number (if known): K031637

Device Name: **Digital Fluoroscopic Imaging System – Innova 3100**

Indications for Use

The **Digital Fluoroscopic Imaging System** is indicated for use in diagnostic and interventional angiography procedures of human anatomy. It is intended to replace image intensifier fluoroscopic systems in all diagnostic or interventional angiography procedures. This device is not intended for mammography applications.

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF  
NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use ✓  
(Per 21 CFR 801-109)

OR Over-The-Counter Use \_\_\_\_\_

David A. Leggett  
(Division Sign-Off)  
Division of Reproductive, Abdominal,  
and Radiological Devices  
510(k) Number K031637